UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,190	06/30/2003	Kazuya Hisada	2003_0886A	8778

513 7590 08/01/2005

WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER	
SCHATZ, CHRISTOPHER	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/608,190	HISADA ET AL.	
	Examiner	Art Unit	
	Christopher T. Schatz	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) *1-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/13/04,9/26/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species IV, claims 22-46 in the reply filed on June 16, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Objections

2. Claim 22 is objected to because of the following informalities: line 2 of claim 22 recites the phase "comprising steps for." Examiner recommends applicant replace the phase with "said method comprising" or "comprising the steps of." Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 43 - 46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language of the claims 43 and 45 is unclear. In claim 43, examiner

recommends applicant replace the phase "characterized by the step for coating the radiation curable resin to the first substrate applying the radiation curable resin by a spin coating method" with the phase "where the radiation curable adhesive is applied to the first substrate by a spin coating method." As to claim 45, examiner recommends applicant replace the phase "characterized by the step for coating the radiation curable resin to the second substrate applying the radiation curable resin by a spin coating method" with the phase "where the radiation curable adhesive is applied to the second substrate by a spin coating method."

Claims 44 and 46 recites the limitation "closing the center hole." There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 22, 23, 25- 29, and 31-36, 40-43, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama et al. '133 in view of Ohno et al. '170.

Maruyama et al. discloses a method for manufacturing an optical data recording medium, said method comprising: preparing a first substrate 8; coating the first substrate with a radiation curable resin 5'; preparing a second substrate having a groove or lands and pits on one side 9;

disposing a resin material 4' to the side of the second substrate having the groove or lands and pits; and pressing the radiation curable resin of the first substrate and the resin material of the second substrate together (figure 2 (f')-(h')) (column 7, line 38 – column 9, line 40). While Maruyama et al. discloses that the resin layer 5' is uncured before the two substrates are pressed together, the reference is silent as to the step of partially curing a radiation curable resin.

Ohno et al. discloses a method of manufacturing an optical data recording medium wherein a radiation curable resin 211 is partially cured (figure 12B, column 15, lines 51-58). Partially curing the radiation curable adhesive is advantageous because, as disclosed by Ohno et al. doing so increases the thickness uniformity of the resin layer, thus preventing the recording and playback signals from varying (column 4, lines 54-59). Examiner acknowledges that the reference does not explicitly recite that partial curing occurs before the first and second substrates are laminated together. However, examiner asserts that because the same advantage would be achieved by partially curing the resin disposed on the first substrate before pressing, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to partially cure a radiation curable resin as taught by Ohno et al. above to increase thickness uniformity in the process of manufacturing an optical data recording medium as set forth above by Maruyama et al.

As to claim 23, Ohno et al. discloses a method of manufacturing an optical data recording medium wherein the step for curing in part the radiation curable resin coating the first substrate is characterized by changing the cured state of the radiation curable resin inside and outside a specified radius of the first substrate (figure 1B, 12B, 15B, column 15, lines 51-58). As to claim 25, Maruyama et al. discloses a method of manufacturing an optical data recording medium

wherein an adhesive material is used for the resin material (column 10, lines 13-15). As to claim 26, Maruyama et al. discloses a method of manufacturing an optical data recording medium wherein a second radiation curable resin (4, 5) is used for the resin material (column 2,lines 7-10). As to claim 27, Maruyama et al. discloses a method of manufacturing an optical data recording medium wherein the same radiation curable resin (SK-3100) coated to the first substrate is used as the second radiation curable resin. As to claim 28, Ohno et al. does not explicitly recite a step for curing in part a second radiation curable resin coating the second substrate. This is because the reference does not explicitly disclose the method of separately coating two substrates with a resin. However, applicant is reminded that Maruyama et al. does disclose the method of separately coating two substrates, and examiner asserts the because it is obvious to partially cure a radiation curable material disposed on the first substrate as discussed above, one of ordinary skill in the art would have recognized that it would be advantageous to also partially cure a radiation curable material disposed on the second substrate. The limitations of claim 29 are analogous to those of claim 23, except that claim 29 is dependent on claim 28. Since examiner has provided reasons above as to why the references meet the limitations of both claims 23 and 28, examiner asserts that the references also meet the limitations of claim 29. As to claim 31, Maruyama et al. discloses a method of manufacturing an optical data recording medium further comprising, after the step for pressing the first and second substrates together, a step for curing the radiation curable resin by exposure to radiation ((figure 2(h'), column 9, lines 18-28). As to claim 32, Maruyama et al. discloses a method of manufacturing an optical data recording medium wherein at least one of the first and second substrates is substantially transparent to radiation for curing the radiation curable resin (column 2, lines 63-67). As to claim

33; Maruyama et al. discloses a method of manufacturing an optical data recording medium wherein a groove or lands and pits are on the surface of the first substrate coated with the radiation curable resin (figure 2(d')). As to claim 34, Maruyama et al. discloses a method of manufacturing an optical data recording medium wherein a groove or lands and pits 9 are on the surface of the second substrate to which the resin material is disposed (figure 2(a')). As to claims 35 and 36, Maruyama et al. discloses a method of manufacturing an optical data recording medium wherein the first and second substrates have one or more recording layers (column 2, lines 63-67). As to claim 40, Ohno et al. discloses a method of manufacturing an optical data recording medium characterized by exposing to radiation part of the radiation curable resin disposed to the first substrate to cure the resin in part (figures 1B, 12B, 14 and 15) As to claim 41, applicant should note that although Ohno et al. does not explicitly recite a step for curing in part the second radiation curable resin coating the second substrate, examiner explained above why such a step would have obvious to one of ordinary skill in the art. Therefore, because Ohno et al. meets the limitation of claim 40, the reference also meets the limitation of claim 41. As to claim 42, Ohno et al. discloses a method of manufacturing an optical data recording medium further comprising, after the step for curing the curable radiation in part, a step for removing all or part of the uncured part of the radiation curable resin (figures 1B, 12B, 14, and 15, column 15, line 51 – column 16, line 9). As to claim 43, Maruyama et al. discloses a method of manufacturing an optical data recording medium characterized by the step for coating the radiation curable resin to the first substrate by applying the radiation curable resin by a spin coating method (column 1, line 67 – column 2, line 4). As to claim 45, Maruyama et al. discloses a method of manufacturing an optical data recording medium characterized by the step of coating

a second radiation curable adhesive to the second substrate by applying the second radiation curable adhesive by a spin coating method (column 2,lines 4-7).

7. Claims 22-36, 40-43, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama et al. in view of Amo '433.

Maruyama et al. discloses most of the limitations of claim 22 as stated in paragraph 6 above but the reference is silent as to the step of partially curing said radiation curable resin. Amo discloses a method of manufacturing an optical data recording medium wherein a radiation curable resin R is partially cured (figures 7a and 7b, column 4, lines 14-19, lines 28-32). Partially curing the radiation curable adhesive is advantageous because, as disclosed by Amo doing so corrects the nonalignment of the two substrates (column 4, lines 7-21). Examiner again acknowledges that the reference does not explicitly recite that partial curing occurs before the first and second substrates are laminated together. However, examiner asserts that because the same advantage would be achieved by partially curing the resin disposed on the first substrate before pressing, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to partially cure a radiation curable resin as taught by Amo above to increase correct the nonalignment of the two substrates in the process of manufacturing an optical data recording medium as set forth above by Maruyama et al.

As to claim 23, Amo discloses a method of manufacturing an optical data recording medium wherein the step for curing in part the radiation curable resin coating the first substrate is characterized by changing the cured state of the radiation curable resin inside and outside a specified radius of the first substrate (figure 8B, 9B, column 8, lines 13-20). As to claim 24, Amo does not explicitly recite that the specified radius is 90% or more of the radius of the first

substrate. However, examination of figure 8B clearly shows that the specified radius is 90% or more of the radius of the first substrate. As to claims 25-27, 31-36, 43, and 45, Maruyama et al. meets all the limitations of said claims as discussed in paragraph 6 above. As to claim 28, Amo does not explicitly recite a step for curing in part the second radiation curable resin coating the second substrate. This is because the reference does not explicitly disclose the method of separately coating two substrates with a resin. However, applicant is again reminded that Maruyama et al. does disclose the method of separately coating two substrates, and examiner asserts the because it is obvious to partially cure a radiation curable material disposed on the first substrate as discussed above, one of ordinary skill in the art would have recognized that it would be advantageous to also partially cure a radiation curable material disposed on the second substrate. The limitations of claims 29 and 30 are analogous to those of claims 23 and 24, except that claims 29 and 30 are dependent on claim 28. Since examiner has provided reasons above as to why the references meet the limitations of both claims 23, 24 and 28, examiner asserts that the references also meet the limitations of claims 29 and 30. As to claim 40, Amo discloses a method of manufacturing an optical data recording medium characterized by exposing to radiation part of the radiation curable resin disposed to the first substrate to cure the resin in part (figure 6C). As to claim 41, applicant should note that although Amo does not explicitly recite a step for curing in part the second radiation curable resin coating the second substrate, examiner explained above why such a step would have obvious to one of ordinary skill in the art. Therefore, because Amo meets the limitation of claim 40, the reference also meets the limitation of claim 41. As to claim 42, neither reference explicitly discloses a method further comprising, after the step for curing the curable radiation in part, a step for removing all or part of the uncured part of the

radiation curable resin. However, Amo does disclose that it is well known in the art to remove to rotate a disk during a curing step such that part of a radiation curable resin that is not yet cured is removed (column 2, line 42-49). As such, one of ordinary skill in the art would have understood to remove all or part of an uncured part of a radiation curable adhesive after said adhesive is cured in part.

8. Claims 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama et al. and Amo as applied to claims 22 and 33 above, and in further view of Ohki et al, '652.

Maruyama et al. and Amo disclose a method as stated in claims 22 and 33, but the references are silent as to the removal of the first or second substrate such that grooves are formed. Ohki et al. discloses a method for manufacturing an optical data recording medium wherein a substrate is removed such that a groove or lands and pits corresponding to a groove or lands and pits of another substrate are formed (figure 5D, column 5, lines 37-42). Removal of a substrate layer such that a groove or land and pits are formed is advantageous because, as disclosed by Ohki et al., doing so allows for the formation of an information recording layer. Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to remove a substrate such that a groove or lands and pits are formed as taught by Ohki et al. above to form an information recording layer in the process of manufacturing an optical data recording medium as set forth above by Maruyama et al. and Amo. As to claim 38, Ohki et al. discloses a method for manufacturing an optical data recording medium further comprising, after the step for removing the substrate, a step for forming a data recording layer by forming a reflective film 14 over the groove or lands and pits (column 5, lines 42-25). As to claim 39, Ohki et al. discloses a method for manufacturing an optical data recording medium further comprising

a step for forming a transparent layer 15 on the data recording layer (column 5, lines 45-46). Examiner acknowledges that the Ohki et al. does not explicitly disclose that said layer 15 is transparent. However, one of ordinary skill in the art would have understood that said layer must be transparent for the information recording layer to be capable of recording information.

9. Claims 44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama et al. and Amo as applied to claims 22, 26, 43, and 45 above, and in further view of Komaki et al. (US 2001/0053121).

Maruyama et al. and Amo disclose a method as stated in claims 22, 26, 43, and 45 above, and Maruyama et al. further discloses coating the first and second substrates by dripping a radiation curable resin from above said substrates while spinning said substrates (column 1, line 67 – column 2, line 8). The references are silent, however, as to the step of closing a center hole of a first and second substrate with a capping member.

Komaki et al. discloses a method of manufacturing a optical storage medium wherein a radiation curable resin 51 is coated onto a substrate 100, said method comprising: closing a center hole 101 of the substrate with a capping member 3; coating the radiation curable resin to the substrate by dripping the resin from substantially above the center hole while spinning the first substrate centered on the center hole (figure 3). Closing a center hole of substrate with a capping member and dripping the resin from above the center hole is advantageous because it produces a resin layer with a more uniform thickness. Examiner asserts that although Komaki et al. discloses only one substrate, the method and advantage would apply equally to both the first and second substrate disclosed by Maruyama et al. Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to close a center hole of a

substrate with a capping member and coat the radiation curable resin to a substrate by dripping the resin from substantially above the center hole while spinning the substrate centered on the center hole as taught by Komaki et al. above to increase thickness uniformity of the resin layer in the process of manufacturing a optical storage medium as set forth above by Maruyama et al. and Amo.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Christopher T. Schatz** whose telephone number is **571-272-1456**. The examiner can normally be reached on 8:00-5:30, Monday -Thursday, 8:00-4:30 Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CTS

BLAINE COPENHEAVER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700